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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,605	09/23/2003	Bernd Karl Appelt	4459-130	9744

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EXAMINER	
VU, QUANG D	

ART UNIT	PAPER NUMBER
2811	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/667,605	APPELT ET AL.	
	Examiner	Art Unit	
	Quang D Vu	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,10-15 and 20-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,10-15 and 20-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of group I in the reply filed on 10/04/04 is acknowledged. The traversal is on the ground(s) that the restriction is not proper. This is not found persuasive because group II (claims 6-9 and 16-19) and group I (claims 1-5, 10-15 and 20-24) are related as product made and process of making, respectively. Additionally, the device of group I (claims 1-5, 10-15 and 20-24) invention could be made by as a materially different process. For example, partially encapsulating the chip and bonding wires up to the supporter, opening the window on the supporter corresponding to the optical element of the chip, and then completely encapsulating material to form a package body for fixing the window, instead of providing a supporter, disposing a window on the supporter, positioning the window corresponding to the optical element of the chip and then forming an encapsulant on the substrate for fixing the window and encapsulating the chip and the bonding wires.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 10-14 and 20-24 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 4,732,042 to Adams.

Regarding claim 1, Adams (figures 1-2B) teaches an optical semiconductor package comprising:

a substrate (11);

a chip (pressure sensor chip [14]) having an optical element and disposed on the substrate (11);

a plurality of bonding wires (16) for electrically connecting the chip (14) to the substrate (11);

a window (15);

a supporter (a portion of [11b]) supporting the window (15) for positioning the window corresponding to the optical element of the chip (14); and

an encapsulant (19) formed on the substrate (11) for fixing the window (15) and encapsulating the chip (14) and the bonding wires (16).

Regarding claim 2, the claim limitations "the encapsulant is formed by means of the overmolding process" in claim 2 is taken to be product by process limitations, which does not carry weight in claim drawn to structure. A product by process claim directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See In re Fessman, 180 USPQ 324, 326 (CCPA 1974); In re Marosi et al., 218 USPQ 289, 292 (Fed. Cir. 1983); and particularly In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985), all of which make it clear that it is the patentability of the final structure of the product "gleaned" from the process steps, which must be determined in a "product by process" claim, and no the patentability of the

process. See also MPEP 2113. Moreover, an old and obvious product produced by a new method is not a patentable product, whether claimed in "product by process" claims or not.

Regarding claim 3, Adams teaches paired snapping elements (notch [11d]) respectively disposed on the window (15) and the supporter (11b) for snapping the window with the supporter.

Regarding claim 4, Adams teaches the supporter (11b) further comprises a shoulder (a portion of the recess of [11b]) for supporting the window.

Regarding claim 5, Adams teaches the window is a lens (layer [18]).

Regarding claim 10, Adams (figures 1-2B) teaches an optical semiconductor package comprising:

a substrate (11);

a chip (pressure sensor chip [14]) having an optical element and disposed on the substrate (11);

a plurality of bonding wires (16) for electrically connecting the chip (14) to the substrate (11);

a window (15) mounted on the optical element of the chip (pressure sensor chip [14]); and

an encapsulant (19) formed on the substrate (11) for fixing the window (15) and encapsulating the chip (14) and the bonding wires (16).

Regarding claim 11, the claim limitations "the encapsulant is formed by means of the overmolding process" in claim 11 is taken to be product by process limitations, which does not carry weight in claim drawn to structure. A product by process claim directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See In re

Fessman, 180 USPQ 324, 326 (CCPA 1974); In re Marosi et al., 218 USPQ 289, 292 (Fed. Cir. 1983); and particularly In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985), all of which make it clear that it is the patentability of the final structure of the product "gleaned" from the process steps, which must be determined in a "product by process" claim, and no the patentability of the process. See also MPEP 2113. Moreover, an old and obvious product produced by a new method is not a patentable product, whether claimed in "product by process" claims or not.

Regarding claim 12, Adams teaches the window comprises a ledge (a portion of the recess of [11b]) for securing the window in the encapsulant.

Regarding claim 13, teaches the encapsulant (19) is made of an opaque material (column 3, line 40).

Regarding claim 14, Adams teaches the window is a lens (layer [18]).

Regarding claim 20, Adams (figures 1-2B) teaches an optical semiconductor package comprising:

a substrate (11);

a chip (pressure sensor chip [14]) having an optical element and disposed on the substrate (11);

a plurality of bonding wires (16) for electrically connecting the chip (14) to the substrate (11);

a window (15);

a supporter (a portion of [11b]) supporting the window (15) for positioning the window corresponding to the optical element of the chip (14); and

an encapsulant (19) formed on the substrate (11) for hermetically fixing the supporter (a portion of [11b]) on the substrate (11).

Regarding claim 21, the claim limitations "the encapsulant is formed by means of the overmolding process" in claim 21 is taken to be product by process limitations, which does not carry weight in claim drawn to structure. A product by process claim directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See In re Fessman, 180 USPQ 324, 326 (CCPA 1974); In re Marosi et al., 218 USPQ 289, 292 (Fed. Cir. 1983); and particularly In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985), all of which make it clear that it is the patentability of the final structure of the product "gleaned" from the process steps, which must be determined in a "product by process" claim, and no the patentability of the process. See also MPEP 2113. Moreover, an old and obvious product produced by a new method is not a patentable product, whether claimed in "product by process" claims or not.

Regarding claim 22, Adams teaches the window (15) is hermetically disposed on the supporter (a portion of [11b]).

Regarding claim 23, Adams teaches the encapsulant (19) is made of an opaque material (column 3, line 40).

Regarding claim 24, Adams teaches the window is a lens (layer [18]).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim15 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4,732,042 to Adams in view of US Patent No. 5,897,338 to Kaldenberg.

Regarding claim 15, Adams differs from the claimed invention by not showing an adhesive for mounting the window on the optical element of the chip. However, Kaldenberg (figure 4) teaches an adhesive (28) for mounting the window (26) on the chip (12). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Kaldenberg into the device taught by Adams in order to hold the window in place.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang D Vu whose telephone number is 571-272-1667. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qv
December 10, 2004

EDDIE LEE
SUPERVISORY PATENT EXAMINER
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